MONOLITHIC LIGHT EMITTING DEVICES BASED ON WIDE BANDGAP SEMICONDUCTOR NANOSTRUCTURES AND METHODS FOR MAKING SAME

ABSTRACT

[0087] The present invention is directed toward a method for fabricating low-defect nanostructures of wide bandgap materials and to optoelectronic devices, such as light emitting sources and lasers, based on them. The invention utilizes nanolithographically-defined templates to form nanostructures of wide bandgap materials that are energetically unfavorable for dislocation formation. In particular, this invention provides a method for the fabrication of phosphor-less monolithic white light emitting diodes and laser diodes that can be used for general illumination and other applications.